

# Study of e-Learning about OTC drugs as an educational tool for pharmacy students

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## Abstract

**Objectives:** Training of pharmacists to give appropriate information about self-medication to the general public has become essential. However, our previous research showed that only 30% of Japanese pharmacy schools had lectures about over-the-counter (OTC) drugs or nonprescription drugs, and there were large differences in the volume, content and aims of their curriculums. The purpose of this work was to try to establish a new educational tool for OTC drugs by e-Learning, as a model for education of Japanese pharmacy students about OTC drugs.

**Methods:** We created e-Learning materials about OTC drugs for pharmacy students in two stages. The preparatory e-Learning materials were evaluated by the students, and refined based on the evaluation results, then the resulting practical materials were made available on-line.

**Results:** We completed three preparatory e-Learning materials about hemorrhoid, diarrhea and constipation as a first step. The materials included sections on disease outline, cause, symptoms, treatment, flow chart, self-care, and summary, followed by a quiz. These materials were given to pharmacy school students in lectures, and the students were requested to assess them in various respects. We used this feedback to prepare practical e-Learning material about cold, and evaluated it in the same way as before. The assessment results indicated that this practical e-Learning material was effective as a tool for education about OTC drugs. Following the assessments, the updated e-Learning materials have been made available on the website of the Department of Pharmaceutics, Kyoritsu University of Pharmacy, Japan.

**Conclusion:** We prepared e-Learning materials about OTC drugs for the purpose of training pharmacy students about evaluation of symptoms, evaluation of medicinal effects, and medical referrals. After assessment and revision, these materials have been made available on the internet. These materials are not exhaustive, but give basic information needed to advise the general public about self-medication. The e-Learning process appears to be useful to motivate further study of OTC drugs, and our materials may be useful as a model curriculum.

**Key words:** over-the-counter (OTC) drugs, nonprescription drugs, e-Learning, self-care, self-medication, educational tool